Impact of the international banking crisis on the Indian financial system

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It would have been hard, even a few months prior to the collapse of Lehman Brothers, to anticipate the impact that the global financial crisis would have on the Indian economy. This is because the Indian banking system did not have any direct exposure to subprime mortgage assets or any significant exposure to the failed institutions, and the recent growth had been driven predominantly by domestic consumption and investment. And yet, the extent to which the global crisis impacted India was dismaying, spreading through all channels – the financial channel, the real channel and the confidence channel. The reason why India was hit by the crisis was because of its rapid and growing integration into the global economy.

Under the impact of external demand shock, there was a moderation in growth in the second half of 2008–09 compared to the robust growth of 8.8% per annum in the preceding five years. The deceleration was more noticeable in the negative growth in industrial output in Q4 2008–09 – the first decline since the 1990s. The transmission of external demand shock was severe on export growth, which deteriorated from a peak rate of about 40% in Q2 2008–09 to (–)22 per cent in Q4, ie the first contraction since 2001–02. Simultaneously, domestic aggregate demand also moderated due to a sharp deceleration in the growth of private consumption demand.

With regard to financial markets, India witnessed a reversal of capital inflows following the collapse of Lehman Brothers. Due to a heavy sell-off by foreign institutional investors (FIIs) there was a significant downward movement in the domestic stock markets. The withdrawal by FIIs and the reduced access of Indian entities to external funds exerted significant pressure on dollar liquidity in the domestic foreign exchange (FX) market. This created adverse expectations on the balance of payments (BOP) outlook, leading to downward pressure on the Indian rupee and increased FX market volatility. While the banking system was sound and well capitalised, some segments of the financial system such as mutual funds (MFs) and non-banking financial companies (NBFCs) came under pressure due to reduced foreign funding and a subdued capital market. Moreover, the demand for bank credit increased due to the drying up of external sources. Against this backdrop, the Reserve Bank of India stepped in with liquidity-supplying measures – both in the rupee and in foreign currency – and the government implemented fiscal stimulus measures, a more detailed account of which is given below.

Impact of the global financial crisis on local money markets, debt markets and foreign exchange markets

Although the direct impact of the subprime crisis both on Indian banks and on the financial sector was almost negligible because of their limited exposure to the troubled assets, the prudential policies put in place by the Reserve Bank and the relatively low presence of foreign banks in the Indian banking sector, there was a sudden change in the external

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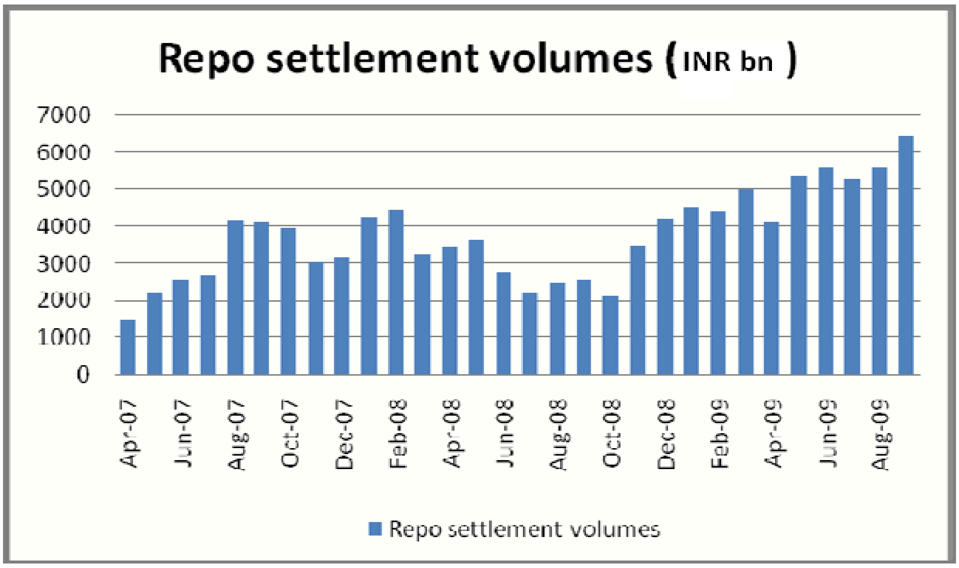
environment following the failure of Lehman Brothers in mid-September 2008. The knock-on effects of the global financial crisis manifested themselves not only as reversals in capital inflows but also in adverse market expectations, causing a sharp correction in asset prices on the back of sell-offs in the equity market by FIIs and exchange rate pressures. The withdrawal of funds from the Indian equity markets, as in the case of other emerging market economies (EMEs) and the reduced access of Indian entities to international market funds exerted significant pressure on dollar liquidity in the domestic FX market. With a view to maintaining orderly conditions in the FX market which had become very volatile, the Reserve Bank scaled up its intervention operations, particularly in October 2008. However, the FX market remained orderly in 2009–10 with the rupee exhibiting a two-way movement against major currencies.

Indian financial markets, particularly banks, have continued to function normally. However, the cumulative effect of the Reserve Bank's operations in the FX market as well as transient local factors such as the build-up in government balances following quarterly advance tax payments had an adverse impact on domestic liquidity conditions in September and October 2008. Consequently, in the money market the call money rate breached the upper bound of the informal Liquidity Adjustment Facility (LAF) corridor during mid-September–October 2008. However, as a result of the slew of measures initiated by the Reserve Bank (referred to in detail below) the money market rates declined and have remained below the upper bound of the LAF corridor since November 2008. In the current financial year, the call rate has thus far hovered around the lower bound of the informal LAF corridor.

The indirect impact of the global financial turmoil was also evident in the activity in the certificate of deposit (CD) market. The outstanding amount of CDs issued by scheduled commercial banks (SCBs), after increasing between March and September 2008, declined thereafter until December 2008 as the global financial market turmoil intensified. With the easing of liquidity conditions, the CD volumes picked up in the last quarter of 2008–09. The weighted average discount rate (WADR) of CDs, which had increased with the tightening of liquidity conditions, started declining from December 2008 onwards. Commercial paper market developments were similar.

As explained above, the rates in the unsecured (call) market went above the LAF corridor from mid-September to October 2008 as a consequence of the liquidity pressure in the domestic market. The rates in the collateralised money market – (Collateralised Borrowing and Lending Obligation (CBLO) and repo markets) – moved in tandem but remained below the call rate.

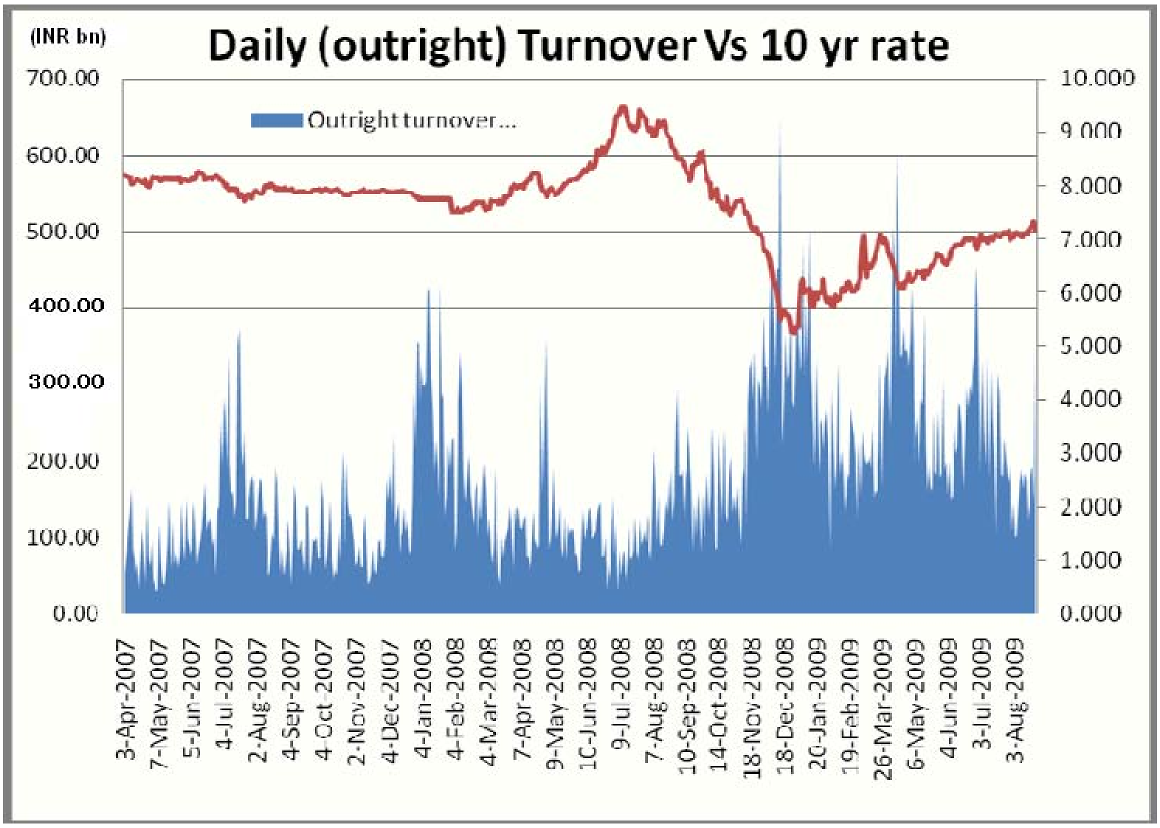
The Indian repo markets were broadly unaffected by the global financial crisis. Currently, only government securities are permitted for repo and a select set of participants (regulated entities) is permitted to participate in repos. All repo transactions are novated by the Clearing Corporation of India and settled on a guaranteed basis. The interbank repo markets continued to function, without freezing, during the period of global financial turmoil. During the period June–October 2008, the repo volumes fell marginally but subsequently recovered. There was no incidence of settlement failure during the global financial crisis.



The total volume in the money market segments decreased during September and October 2008. In October 2008, the decrease was more pronounced in the collateralised segment compared to the uncollateralised segment. The volume in the call market actually increased in October 2008. Moreover, the average daily amount of liquidity injected into the banking system through the LAF increased substantially during September and October 2008. The total money market average daily volume increased after December 2008 and was around Indian rupee (INR) 800 billion in March 2009 and around INR 900 billion in October 2009.

The Indian government securities markets have been broadly insulated from the global financial crisis. There has been no incidence of settlement failure or default. The muted impact of the global crisis on the Indian government securities markets can be attributed, inter alia, to the calibrated opening of the markets to foreign players. Internationally, it has been observed that capital flows to EMEs dried up during the crisis period on account of the "flight to safety", despite the interest rate differentials. In the Indian context, however, the investment limits for FIIs in the Indian government securities markets have been put in place to contain the volatility and are being revised in a calibrated manner, taking into consideration macroeconomic factors. Currently, the investment limit for FIIs is USD 5 billion and its utilisation is about 62.60% (as of 9 October 2009).

The yields began to firm up in March 2008, tracking the policy rates in the wake of inflationary pressures and the benchmark 10-year yield reached a peak of 9.48% in mid-July 2008 (see the chart below). The failure of Lehman Brothers and the subsequent global developments followed by sharp reductions in policy rates (the repo rate was reduced from 9.00% to 4.75% during the period October 2008–April 2009 and the reverse repo rate was reduced from 6.00% to 3.25% during the period December 2008–April 2009) resulted in a softening of government security yields coupled with higher turnover in the secondary market. However, the increased borrowing requirements by the central and state governments on account of various countercyclical fiscal measures taken to stimulate the economy resulted in a huge supply of government securities impacting on the interest rates. The benchmark 10-year yield, which had touched a low of 5.27% on 31 December 2008, rose to around 7.41% during early September 2009 on account of concerns over excess supply and inflationary expectations. The Reserve Bank subsequently employed a combination of measures involving monetary easing and the use of innovative debt management tools such as synchronising the Market Stabilisation Scheme (MSS) buyback auctions and open market purchases with the government's normal market borrowings and de-sequestering of MSS balances. By appropriately timing the release of liquidity to the financial system to coincide with the auctions of government securities, the Reserve Bank ensured a relatively smooth conduct of the government's market borrowing programme, resulting in a decline in the cost of borrowings during 2008–09 for the first time in five years.



In 2008–09, the Indian rupee, with significant intrayear variation, generally depreciated against major currencies except the pound sterling on account of the widening of trade and current account deficits as well as capital outflows. The rupee exhibited greater two-way movements in 2008–09. For example, it moved between INR 39.89 and INR 52.09 per US dollar.

The FX market remained orderly during 2009–10, with the rupee exhibiting a two-way movement against major currencies. In the current financial year, the rupee appreciated by 9.7% against the US dollar and 2.6% against the Japanese yen, whereas it depreciated by 5.7% against the pound sterling and 3.2% against the euro. In terms of the real exchange rate, the six-currency trade-based real effective exchange rate (REER) (1993–94 = 100) moved up from 96.3 at end-March 2009 to 104.2 by 23 October 2009.

Central bank instruments to deal with the crisis

Following the intensification of the global financial crisis in September 2008, the Reserve Bank implemented both conventional and unconventional policy measures in order to proactively mitigate the adverse impact of the global financial crisis on the Indian economy. The thrust of the various policy initiatives by the Reserve Bank since September 2008 has been on providing ample rupee liquidity, ensuring comfortable dollar liquidity and maintaining a market environment conducive to the continued flow of credit to productive sectors.

For this purpose, the Reserve Bank used a variety of instruments at its command such as the repo and reverse repo rates, the cash reserve ratio (CRR), the statutory liquidity ratio (SLR), open market operations, including the liquidity adjustment facility (LAF), the MSS, special market operations and sector-specific liquidity facilities. In addition, the Reserve Bank used prudential tools to modulate the flow of credit to certain sectors consistent with financial stability. The availability of multiple instruments and the flexible use of those instruments in the implementation of monetary policy enabled the Reserve Bank to modulate the liquidity and interest rate conditions amid uncertain global macroeconomic conditions.

When the global markets became dysfunctional in September 2008, the macrofinancial conditions remained exceptionally challenging from the standpoint of the implementation of the Reserve Bank's policies, as it had to respond to multiple challenges, from containing inflation in the second half of 2008 to containing the deceleration in growth, preserving the soundness of banks and financial institutions, ensuring the normal functioning of the credit market and maintaining orderly conditions in the financial markets in the first half of 2009.

The Reserve Bank was able to restore normalcy in the financial markets over a short period of time through its liquidity operations in both domestic and foreign currency.

The evolving policy stance was increasingly conditioned by the need to preserve financial stability while arresting the moderation in the growth momentum. The Reserve Bank acted aggressively and pre-emptively on monetary policy accommodation, both through interest rate cuts and a reduction in reserve requirements in terms of both magnitude and pace.

- The policy repo rate under the liquidity adjustment facility (LAF) was reduced from 9.0% to 4.75%.
- The policy reverse repo rate under the LAF was reduced from 6.0% to 3.25%.
- With receding inflationary pressures and the possibility of the global crisis affecting India's growth prospects looming on the horizon, the Reserve Bank switched to an accommodative stance in mid-October 2008 when it reduced the CRR by 250 basis points from 9% to 6.5%. Between 11 October 2008 and 5 March 2009, the CRR was reduced by a cumulative 400 basis points to 5.0%.
- The statutory liquidity ratio (SLR), a legal obligation on banks to invest a certain proportion of their liabilities in specified financial assets including cash, gold and government securities (under Section 24 of the Banking Regulation Act 1949), was one of the instruments used during the crisis to modulate the liquidity conditions in the economy. Variation of the SLR has an impact on the growth of money and credit in the economy through the government debt market. Accordingly, on 1 November 2008, the SLR was reduced to 24% of net demand and time liabilities (NDTL) with effect from the fortnight beginning 8 November 2008. The liquidity situation remained comfortable from mid-November 2008 onwards, as reflected in the daily surplus being placed by banks in the LAF window of the Reserve Bank. In view of this, the SLR was restored to 25% of NDTL with effect from the fortnight beginning 7 November 2009.
- The key policy initiatives taken by the Reserve Bank in response to the developments after September 2008 to improve the availability of FX liquidity included the selling of US dollars in the market by the Reserve Bank, the opening of a new FX swap facility for banks and the raising of interest rate ceilings on non-resident repatriable deposits to attract larger inflows. A cumulative increase of 175 basis points in the interest rate ceilings on each of the aforesaid term deposits was effected between mid-September and November 2008.
- Banks were permitted to borrow funds from their overseas branches and correspondent banks to a maximum of 50% of their unimpaired Tier 1 capital or US$ 10 million, whichever was higher. The systemically important non-deposit-taking non-banking financial companies (NBFC-ND-SI) and housing finance companies (HFCs) were permitted to raise short-term foreign currency borrowings. The ceiling rate on export credit in foreign currency was raised by 250 basis points

to Libor+350 basis points on 5 February 2009. Correspondingly, the ceiling interest rate on the lines of credit from overseas banks was also increased by 75 basis points to six-month Libor/euro Libor/Euribor+150 basis points.

- The policy on the premature buyback of foreign currency convertible bonds (FCCBs) was liberalised in December 2008, recognising the benefits accruing to Indian companies as well as to the economy on account of the depressed global markets. Under this scheme, the buyback of FCCBs by Indian companies was allowed under both the approval and the automatic routes, provided that the buyback was financed by foreign currency resources held in India or abroad and/or by fresh external commercial borrowings (ECBs) raised in conformity with the extant ECB norms and by internal accruals.
- Considering the continuing tightness of credit spreads in the international markets, the all-in-cost ceilings for different maturities were increased in respect of ECBs (150 to 250 basis points) as well as trade credit (75 to 150 basis points). Furthermore, the all-in-cost ceiling for ECBs under the approval route was dispensed with, initially until 30 June 2009, and later extended until 31 December 2009.
- Measures were also initiated to safeguard the interests of India's export sector which was affected by the global economic recession. The period of realisation and repatriation to India of the amount representing the full export value of goods or software exported was enhanced from six months to 12 months from the date of export, subject to review after one year. Similarly, as a relief measure to importers, the limit for the direct receipt of import bills/documents from overseas suppliers was enhanced from US$ 100,000 to US$ 300,000 in the case of imports of rough diamonds and rough precious and semi-precious stones by non-status holder exporters, enabling them to reduce transaction costs.

Other measures taken were:

- The institution of a special 14-day term repo facility for commercial banks up to 1.5% of NDTL.
- The establishment of a special refinance facility for scheduled commercial banks (excluding RRBs) up to 1.0% of each bank's NDTL as of 24 October 2008.
- The introduction of special refinance facilities for financial institutions (SIDBI, NHB and the Exim Bank).
- The introduction of a mechanism to buy back dated securities issued under the MSS so as to provide another avenue for injecting liquidity of a more durable nature into the system.
- The subsequent de-sequestering of balances under the MSS during March and May 2009. The MSS outstanding balance which stood at INR 880.77 billion at end-March 2008 had decreased to INR 187.73 billion at end-October 2009.
- For more effective liquidity management, the Reserve Bank widened the scope of open market operations (OMO) by including purchases of government securities through an auction-based mechanism. Total OMO purchases were around INR 460 billion during 2008–09 and around INR 570 billion during 2009–10.

Consequently, liquidity conditions have remained comfortable since mid-November 2008, reflected in the LAF window being generally in the absorption mode and the call/notice money rate remaining near or below the lower bound of the LAF corridor, consistent with the monetary policy stance. Other money market rates such as discount rates of CDs, CPs and CBLO have softened in tandem with the overnight money market rates. Most commercial banks have reduced their benchmark prime lending rates. An environment of ample liquidity has increased the competitive pressure on banks to reduce lending rates. In addition, as the short-term deposits contracted previously at high rates mature and are repriced, room is opened up for banks to further reduce their lending rates. Total utilisation of the refinance/liquidity facilities introduced by the Reserve Bank have continued to be very low as the overall liquidity conditions remained comfortable throughout the recent period of financial turmoil.

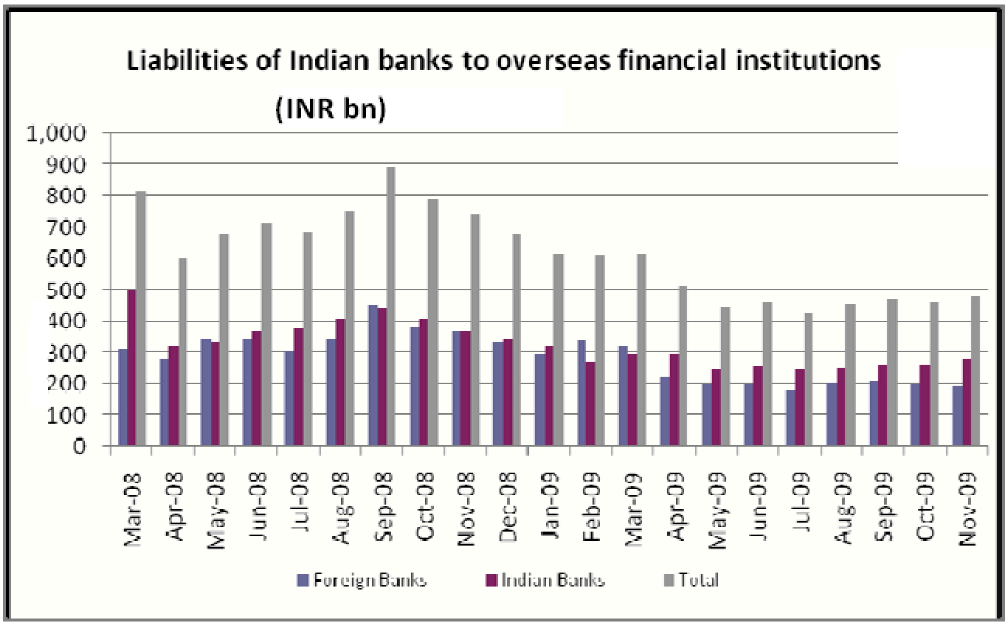
Keeping in mind the overall assessment of the liquidity situation in the economy, the Reserve Bank decided to keep the policy repo rate unchanged at 4.75%, the reverse repo rate unchanged at 3.25% and the CRR of banks unchanged at 5% of their NDTL. However, the following measures constitute the first "exit" phase:

- The SLR, which was reduced from 25% of NDTL to 24% in September 2008, is being restored to 25%.
- The limit for the export credit refinance facility, which was raised to 50% of eligible outstanding export credit, is being returned to the pre-crisis level of 15%.
- The two unconventional refinance facilities: (i) the special refinance facility for scheduled commercial banks; and (ii) the special term repo facility for scheduled commercial banks (for funding to mutual funds (MFs), non-banking financial companies (NBFCs) and housing finance companies (HFCs)) were discontinued with immediate effect (27 October 2009).

The Reserve Bank's exchange rate policy has been guided by the broad principles of careful monitoring and management of exchange rates with flexibility, without a fixed target or a pre-announced target or band, while allowing the underlying demand and supply conditions to determine exchange rate movements over time in an orderly way. This is coupled with the ability to intervene, if and when necessary. Subject to this predominant objective, the exchange rate management policy has been guided by the need to reduce excess volatility, prevent the emergence of destabilising speculative activities, help maintain adequate levels of reserves and develop an orderly FX market. This policy has withstood the test of time, including the current global financial crisis. It is worth mentioning that daily INR volatility was lower than that of major cross currencies and has remained largely in the range of other Asian economies since the onset of the current global financial crisis.

Cross-border bank lending to EMEs

In the second half of 2008 and the first half of 2009, while there was domestic demand for credit from overseas banks, there was a significant decline in lending by overseas banks due to their constraints arising from a sharp fall in external market funding, their need to conserve capital and liquidity and a general reluctance to take on incremental credit and other counterparty exposures. There was also a steep increase in credit spreads. The following chart depicts the decline in lending by overseas financial institutions, including banks, to Indian commercial banks.

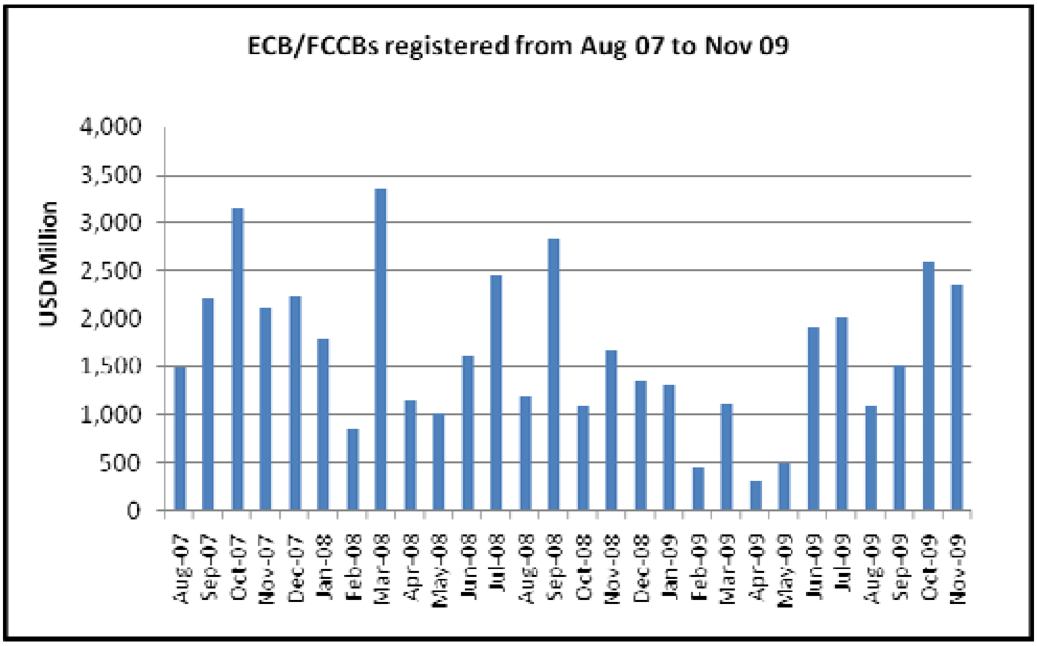


However, as 2009 progressed and the global financial crisis began to settle to some extent, the adverse effects of the global recession and the contraction in international trade on the domestic real sector were felt. Additionally, as a prudent measure, domestic borrowers had begun to prune inventory levels and defer capital expenditure. Falling commodity prices also contributed to lower credit demand. Hence, while the supply of external funds began to recover, domestic credit demand began to slacken. Further, banks hiked up their investment in debt mutual fund holdings which, in turn, invested in the corporate sector, leading to a substitution of direct bank credit to corporates. Private and foreign banks, in particular, reined in retail credit due to the perceived increased risk on account of the general slowdown. These factors resulted in a significant decline in overall domestic credit growth in 2009.

Hence, in the main, the decline in cross-border lending was associated with supply-related issues while, at a later stage, domestic demand factors also came into play even as external bank credit became available again and credit spreads began to ease.

Incidentally, as a consequence of the financial stimulus measures taken in India, the market observed a clear softening of INR funding rates, which increased the attractiveness of INR funding for Indian borrowers against foreign currency funding and, to some extent, the fall in cross-border bank lending was offset by an increase in domestic bank credit.

ECBs, including syndicated loans and FCCBs, registered a sharp decline, mainly due to supply side factors, as corporates increasingly turned to INR financing due to easy domestic liquidity considerations in order to safeguard their balance sheets from currency fluctuations. There has since been a resurgence in ECBs.



There was a sharp increase in the cost of borrowings from overseas institutions during the second half of 2008 and early 2009, which has now eased. During the peak of the crisis, overseas institutions were not interested in funding tenors beyond six months and there was almost no supply of funding with terms of one year or more. In general, banks are tending to lend for shorter maturities wherever feasible. There has also been less demand from smaller corporates for cross-border facilities compared to larger corporates.

While banks have not drastically changed their products on offer, their clients, over the past year, have generally migrated to simple, vanilla derivative products and there has been a general aversion to complex structures.

Banks have become more selective in terms of their clients and in pricing their derivative products. This has been largely driven by the credit standing of obligors, the need to use capital judiciously and also the ability to charge for risk appropriately given the increased market volatility. They have placed increasing emphasis on credit support protocols, ISDA agreements and margins/collateral, and have sharpened their focus on the risk management of the underlying credit exposures in derivatives transactions.

Domestic bank intermediation: domestically owned versus foreign-owned banks

As a result of the various monetary measures taken, interbank markets remained flush with liquidity and attendant low interest rates. At the same time, banks' aggregate deposit growth, especially that of term deposits, remained robust. There was also an attenuation in credit demand, as referred to above. Thus, banks found themselves saddled with surplus liquidity. These factors resulted in their reduced dependence on funding from the interbank markets.

While domestic banks did not make any corrections in terms of lending, foreign banks reduced their long-term lending and shifted to short-term exposures. As mentioned above, banks that had aggressively grown their retail credit portfolios during the pre-crisis period significantly reduced their lending to this segment and tightened their credit underwriting standards, shifting the emphasis from volume to quality. Credit demand from the corporate sector also weakened for the reasons referred to above. A significant development in 2009 was the notable increase in banks' investment in debt mutual fund holdings.

Banks have used the ample liquidity available to them to make large investments in government securities. Consequently, commercial banks' investments in SLR securities (mostly liquid government securities) increased to 29.9% of their NDTL as of 23 October 2009, up from 27.4% the previous year. This was well above the then regulatory requirement of 24%.

As in the case of domestic banks, foreign-owned banks did not face any liquidity problems. However, while domestic deposits have been the major source of funds for domestic banks, foreign banks have relied heavily on purchased funds and funds from their head offices (HOs).

For foreign banks, the contraction in deposits/borrowings received from overseas banks/FIs was INR 254 billion during the period September 2008–June 2009. These liabilities, which include funding from their HOs, constituted almost 11% of their external liabilities as of March 2008 and fell to 5.2% in June 2009. As a result, such liabilities had declined by 27.5% by end-March 2009 before declining even more sharply by 42.0% by end-June 2009. As a consequence, advances by foreign banks contracted by INR 261 billion over the period September 2008–June 2009 (14%).

In contrast, loans by public sector banks (accounting for 75% of commercial bank advances) increased by INR 2,347 billion, contributing to a growth of INR 2,085 billion (11% annualised) in commercial bank advances during the same period.

Certain differences in the responses to the crisis by domestic and foreign banks are briefly described below:

- With regard to sources of funding, banks (domestic as well as foreign) began to rely mainly on deposits, especially term deposits, after September 2008.
- Foreign banks were constrained by diminished access to HO funds by way of capital and borrowings and a global flight to liquidity and risk aversion.
- Foreign banks heavily corrected their off-balance sheet (OBS) (mainly derivatives) exposure after the onset of the crisis. The proportion of their OBS exposure (notional principal) to total assets declined from 2,590.9% at end-September 2008 to 1,998.3% at end-December 2008 and further to 1,591.7% at end-June 2009. To some extent, the correction in OBS exposure of domestic banks was mainly observed in respect of the newer generation private sector banks.
- In order to mobilise more deposits, deposit rates (and accordingly lending rates) were increased by domestic as well as foreign banks. These subsequently reverted to pre-crisis levels.
- In contrast to domestic banks, some foreign banks resorted to resizing their headcount and expenses base.